IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (previously presented), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

1. (canceled)

2. (canceled)

3. (previously presented) A transmission apparatus for use in a radio communication system as defined in claim 9, further comprising;

a detection means for detecting a data storing state of said buffer; and

wherein said transfer means controls a communication speed of the internal virtual circuit type communications in accordance with a detected result of said detection means.

4. (previously presented) A transmission apparatus for use in a radio communication system as defined in claim 9, further comprising:

a detection means for detecting a data storing state of said buffer;

wherein said transmission means transmits transmission destination information to be designated, in accordance with a protocol of an upper layer with respect to layers of said radio channel, and

wherein said transfer means controls a communication speed of the virtual circuit type communications in accordance with a detected result of said detection means.

5. (canceled)

6. (canceled)

7. (previously presented) The transmission apparatus for use in a radio communication system as defined in claim 3, further comprising:

specification means for specifying a sequence number of the transmission data at a point of time of the disconnection, when said radio channel has been disconnected;

wherein said transmission means restarts the data transmission from said data of the sequence number specified by said specification means, when said radio channel has been re-connected.

8. (previously presented) The transmission apparatus for use in a radio communication system as defined in claim 4, further comprising:

specification means for specifying a sequence number of the transmission data at a point of time of the disconnection, when said radio channel has been disconnected;

wherein said transmission means restarts the data transmission from said data of the sequence number specified by said specification means, when said radio channel has been re-connected.

9. (previously presented) A transmission apparatus for use in a radio communication system wherein the transmission apparatus communicates with a reception apparatus through a radio channel, said transmission apparatus comprising:

monitoring means for monitoring whether or not a transmission request for data, designating the transmission apparatus itself as a transmission destination, has been issued by said transmission apparatus or the reception apparatus connected thereto through a network;

generation means for generating and initiating a process in the transmission apparatus to serve as a logical reception destination for the data and generating a buffer in correspondence with the process, when said monitoring means has detected the issue of the transmission request;

transfer means for transferring the data from a transmission request source to said process in accordance with communications of an internal virtual circuit type, so as to store in the buffer the data transmitted by the transmission request source; and

transmission means for transmitting the data stored in said buffer, to said reception apparatus through the radio channel;

wherein when a plurality of such buffers are generated by said generation means, said transmission means reads out data successively from the buffers of higher priority levels in accordance with priority levels set for the respective buffers and transmits the read data.

10. (previously presented) A transmission apparatus for use in a radio communication system wherein the transmission apparatus communicates with a reception apparatus through a radio channel, said transmission apparatus comprising:

monitoring means for monitoring whether or not a transmission request for data, designating the transmission apparatus itself as a transmission destination, has been issued by said transmission apparatus or the reception apparatus connected thereto through a network;

generation means for generating and initiating a process in the transmission apparatus to serve as a logical reception destination for the data and generating a buffer in correspondence with the process, when said monitoring means has detected the issue of the transmission request;

transfer means for transferring the data from a transmission request source to said process in accordance with communications of an internal virtual circuit type, so as to store in the buffer the data transmitted by the transmission request source; and

transmission means for transmitting the data stored in said buffer, to said reception apparatus through the radio channel;

wherein when a plurality of such buffers are generated by said generation means, said transmission means transmits data while setting transmission cycles of the data stored in the buffers of higher priority levels, shorter in accordance with priority levels set for the respective buffers.

11. (previously presented) A transmission apparatus for use in a radio communication system wherein the transmission apparatus communicates with a reception apparatus through a radio channel, said transmission apparatus comprising:

monitoring means for monitoring whether or not a transmission request for data, designating the transmission apparatus itself as a transmission destination, has been issued by said transmission apparatus or the reception apparatus connected thereto through a network;

generation means for generating and initiating a process in the transmission apparatus to serve as a logical reception destination for the data and generating a buffer in correspondence with the process, when said monitoring means has detected the issue of the transmission request;

transfer means for transferring the data from a transmission request source to said process in accordance with communications of an internal virtual circuit type, so as to store in the buffer the data transmitted by the transmission request source;

transmission means for transmitting the data stored in said buffer, to said reception apparatus through the radio channel;

a cache memory which stores therein data sent back in response to the data transmission of said transmission means; and

search means for searching as to whether or not data requested by said transmission request source is registered in said cache memory;

wherein when the registration of the requested data in said cache memory has been detected by said search means, said process transfers said requested data in said cache memory, to said transmission request source through said transfer means.

12. (canceled)

13. (previously presented) A reception apparatus for use in a radio communication system wherein the reception apparatus communicates with a transmission apparatus through a radio channel, said reception apparatus comprising:

reception means for receiving data sent in through the radio channel;

monitoring means for monitoring whether or not said reception means has received data which conforms to a protocol suspended in layers of said radio channel;

generation means for generating and initiating a process in the transmission apparatus to serve as a logical reception destination for the data, when said monitoring means has detected the reception of the pertinent data;

transfer means for transferring the data received by the process, to a transmission request destination in accordance with communications of an internal virtual circuit type

a cache memory which stores therein data sent back from the transmission request destination in response to the data transfer of said transfer means;

search means for searching as to whether or not data requested by the data sent in through said radio channel is registered in said cache memory; and

transmission means for transmitting said requested data in said cache memory, to said transmission request source through said radio channel, when the registration of the requested data in said cache memory has been detected by said search means.

14. (canceled)

15. (canceled)

16. (canceled)

17. (canceled)

18. (currently amended) A data communication method for a radio communication system as defined in claim 21, further comprising:

detecting a data storing state of said buffer; and

wherein in said transferring, a communication speed of the virtual circuit type communications is controlled in accordance with a result of the detection.

19. (canceled)

20. (previously presented) A data communication method for a radio communication system wherein the transmission apparatus communicates with a reception apparatus through a radio channel, said method comprising:

monitoring whether or not a transmission request for data, designating the transmission apparatus itself as a transmission destination, has been issued by said transmission apparatus or the reception apparatus connected thereto through a network;

generating and initiating a process in the transmission apparatus to serve as a logical reception destination for the data and also generating a buffer in correspondence with the process, when the issue of the transmission request has detected;

transferring the data from a transmission request source to said process in accordance with communications of an internal virtual circuit type, so as to store in the buffer the data transmitted by the transmission request source; and

transmitting the data stored in said buffer, to said reception apparatus through the radio channel;

wherein when a plurality of such buffers have been generated in said generating operates to read out data successively from the buffers of higher priority levels in accordance with priority levels set for the respective buffers, and to transmit the read data, in said transmitting.

21. (previously presented) A data communication method for a radio communication system wherein the transmission apparatus communicates with a reception apparatus through a radio channel, said method comprising:

monitoring whether or not a transmission request for data, designating the transmission apparatus itself as a transmission destination, has been issued by said transmission apparatus or the reception apparatus connected thereto through a network;

generating and initiating a process in the transmission apparatus to serve as a logical reception destination for the data and also generating a buffer in correspondence with the process, when the issue of the transmission request has detected;

transferring the data from a transmission request source to said process in accordance with communications of an internal virtual circuit type, so as to store in the buffer the data transmitted by the transmission request source; and

transmitting the data stored in said buffer, to said reception apparatus through the radio channel;

wherein when a plurality of such buffers have been generated in said generating operates to transmit data stored in the respective buffers while setting transmission cycles of the data stored in said buffers of higher priority levels, shorter in accordance with priority levels set for said respective buffers, in said transmitting.

22. (previously presented) A data communication method for a radio communication system wherein a transmission apparatus communicates with a reception apparatus through a radio channel, said method comprising:

monitoring whether or not a transmission request for data, designating the transmission apparatus itself as a transmission destination, has been issued by the transmission apparatus or the reception apparatus connected thereto through a network;

generating and initiating a process in the transmission apparatus to serve as a logical reception destination for the data and also generating a buffer in correspondence with the process, when the issue of the transmission request has detected;

transferring the data from a transmission request source to said process in accordance with communications of an internal virtual circuit type, so as to store in the buffer the data transmitted by the transmission request source;

transmitting the data stored in said buffer, to said reception apparatus through the radio channel

storing data sent back in response to the data transmission said transmission in a cache memory;

making a search as to whether data requested by said transmission request source is stored in the cache memory; and

reading the requested data out of said cache memory and transmitting the read data to said transmission request source, when the data requested by said transmission request source is stored in the cache memory.

23. (canceled)

24. (previously presented) A data communication method for a radio communication system wherein the reception apparatus communicates with a transmission apparatus through a radio channel, comprising:

receiving data sent in through the radio channel;

monitoring whether or not the received data conforms to a protocol suspended in layers of said radio channel;

generating and initiating a process in the reception apparatus to serve as a logical reception destination for the data, when the reception of the data conforming to the protocol has been detected;

transferring the data received by the process, to a transmission request destination in accordance with communications of an internal virtual circuit type;

storing data sent back from the transmission request destination in response to the data transfer, in a cache memory;

making a search as to whether or not data requested by the data received through said radio channel is registered in the cache memory; and

transmitting the requested data in said cache memory, to said transmission request source through said radio channel when said requested data is registered in said cache memory.

25. (canceled)

26. (canceled)

27. (cancelled)

28. (cancelled)

29. (canceled)

30. (new) A transmission apparatus for use in a radio communication system wherein the transmission apparatus communicates with a reception apparatus through a radio channel, said transmission apparatus comprising:

monitoring means for monitoring whether or not a transmission request for data,

designating the transmission apparatus itself as a transmission destination, has been issued by said transmission apparatus or the reception apparatus connected thereto through a network;

generation means for generating and initiating a process in the transmission apparatus to serve as a logical reception destination for the data and generating a buffer in correspondence with the process, when said monitoring means has detected the issue of the transmission request;

transfer means for transferring the data from a transmission request source to said process in accordance with communications of an internal virtual circuit type, so as to store in the buffer the data transmitted by the transmission request source;

transmission means for transmitting the data stored in said buffer, to said reception apparatus through the radio channel; and

detection means for detecting a data storing state of said buffer;

wherein said transfer means controls a communication speed of the internal virtual circuit type communications in accordance with a detected result of said detection means; and

wherein when a plurality of such buffers are generated by said generation means, said transmission means transmits data while setting transmission cycles of the data stored in the buffers of higher priority levels, shorter in accordance with priority levels set for the respective buffers.

31. (new) A transmission apparatus for use in a radio communication system wherein the transmission apparatus communicates with a reception apparatus through a radio channel, said transmission apparatus comprising:

monitoring means for monitoring whether or not a transmission request for data, designating the transmission apparatus itself as a transmission destination, has been issued by said transmission apparatus or the reception apparatus connected thereto through a network;

generation means for generating and initiating a process in the transmission apparatus to serve as a logical reception destination for the data and generating a buffer in correspondence with the process, when said monitoring means has detected the issue of the transmission request;

transfer means for transferring the data from a transmission request source to said process in accordance with communications of an internal virtual circuit type, so as to store in the buffer the data transmitted by the transmission request source;

transmission means for transmitting the data stored in said buffer, to said reception apparatus through the radio channel;

detection means for detecting a data storing state of said buffer;

a cache memory which stores therein data sent back in response to the data transmission of said transmission means; and

search means for searching as to whether or not data requested by said transmission request source is registered in said cache memory;

wherein said transfer means controls a communication speed of the internal virtual circuit type communications in accordance with a detected result of said detection means; and

wherein when the registration of the requested data in said cache memory has been detected by said search means, said process transfers said requested data in said cache memory, to said transmission request source through said transfer means.

32. (new) A transmission apparatus for use in a radio communication system wherein the transmission apparatus communicates with a reception apparatus through a radio channel, said transmission apparatus comprising:

monitoring means for monitoring whether or not a transmission request for data, designating the transmission apparatus itself as a transmission destination, has been issued by said transmission apparatus or the reception apparatus connected thereto through a network;

generation means for generating and initiating a process in the transmission apparatus to serve as a logical reception destination for the data and generating a buffer in correspondence with the process, when said monitoring means has detected the issue of the transmission request;

transfer means for transferring the data from a transmission request source to said process in accordance with communications of an internal virtual circuit type, so as to store in the buffer the data transmitted by the transmission request source;

transmission means for transmitting the data stored in said buffer, to said reception apparatus through the radio channel; and

detection means for detecting a data storing state of said buffer;

wherein said transmission means transmits transmission destination information to be designated, in accordance with a protocol of an upper layer with respect to layers of said radio channel,

wherein said transfer means controls a communication speed of the virtual circuit type communications in accordance with a detected result of said detection means, and

wherein when a plurality of such buffers are generated by said generation means, said transmission means transmits data while setting transmission cycles of the data stored in the

buffers of higher priority levels, shorter in accordance with priority levels set for the respective buffers.

33. (new) A transmission apparatus for use in a radio communication system wherein the transmission apparatus communicates with a reception apparatus through a radio channel, said transmission apparatus comprising:

monitoring means for monitoring whether or not a transmission request for data, designating the transmission apparatus itself as a transmission destination, has been issued by said transmission apparatus or the reception apparatus connected thereto through a network;

generation means for generating and initiating a process in the transmission apparatus to serve as a logical reception destination for the data and generating a buffer in correspondence with the process, when said monitoring means has detected the issue of the transmission request;

transfer means for transferring the data from a transmission request source to said process in accordance with communications of an internal virtual circuit type, so as to store in the buffer the data transmitted by the transmission request source;

transmission means for transmitting the data stored in said buffer, to said reception apparatus through the radio channel;

detection means for detecting a data storing state of said buffer;

a cache memory which stores therein data sent back in response to the data transmission of said transmission means; and

wherein said transmission means transmits transmission destination information to be designated, in accordance with a protocol of an upper layer with respect to layers of said radio channel;

wherein said transfer means controls a communication speed of the virtual circuit type communications in accordance with a detected result of said detection means,

search means for searching as to whether or not data requested by said transmission request source is registered in said cache memory; and

wherein when the registration of the requested data in said cache memory has been detected by said search means, said process transfers said requested data in said cache memory, to said transmission request source through said transfer means.

34. (new) A data communication method for a radio communication system wherein a transmission apparatus communicates with a reception apparatus through a radio channel,

said method comprising:

monitoring whether or not a transmission request for data, designating the transmission apparatus itself as a transmission destination, has been issued by said transmission apparatus or the reception apparatus connected thereto through a network;

generating and initiating a process in the transmission apparatus to serve as a logical reception destination for the data and also generating a buffer in correspondence with the process, when the issue of the transmission request has detected;

transferring the data from a transmission request source to said process in accordance with communications of an internal virtual circuit type, so as to store in the buffer the data transmitted by the transmission request source;

transmitting the data stored in said buffer, to said reception apparatus through the radio channel; and

detecting a data storing state of said buffer;

wherein in said transferring, a communication speed of the virtual circuit type communications is controlled in accordance with a result of the detection, and

wherein when a plurality of such buffers have been generated in said generating operates to read out data successively from the buffers of higher priority levels in accordance with priority levels set for the respective buffers, and to transmit the read data, in said transmitting.

35. (new) A data communication method for a radio communication system wherein a transmission apparatus communicates with a reception apparatus through a radio channel, said method comprising:

monitoring whether or not a transmission request for data, designating the transmission apparatus itself as a transmission destination, has been issued by said transmission apparatus or the reception apparatus connected thereto through a network;

generating and initiating a process in the transmission apparatus to serve as a logical reception destination for the data and also generating a buffer in correspondence with the process, when the issue of the transmission request has detected;

transferring the data from a transmission request source to said process in accordance with communications of an internal virtual circuit type, so as to store in the buffer the data transmitted by the transmission request source;

transmitting the data stored in said buffer, to said reception apparatus through the radio channel;

detecting a data storing state of said buffer and wherein in said transferring, a communication speed of the virtual circuit type communications is controlled in accordance with a result of the detection,

storing data sent back in response to the data transmission said transmission in a cache memory;

making a search as to whether data requested by said transmission request source is stored in the cache memory; and

reading the requested data out of said cache memory and transmitting the read data to said transmission request source, when the data requested by said transmission request source is stored in the cache memory.